104620e Thermodynamic analysis of the reduction of solid solutions of iron orthotitanate with magnetite. Shchepetkin, A. A.; Antonov, V. K.; Dvinin, V. I.; Men, A. N.; Chufarov, G. I. (USSR). Izv. Akad. Nauk SSSR, Metal. 1970, (1), 51–5 (Russ). The coeffs. of the equation for the equil. O_2 pressure (P_{O_2} given in atm.) vs. c were calcd. for spinel solid solns. $(Fe_3O_4)_c(Fe_2TiO_4)_{1-c}$ in equil. with $FeO_{1+\delta}$ at 1000°: $\ln P_O = 5.11c - 34.11$ (for $0.10 \leq c \leq 0.55$), $\ln P_O = 9c - 36.25$ (for $0.55 \leq c \leq 0.70$), and $\ln P_O = 0.43c - 30.25$ (for $0.70 \leq c \leq 1.0$). The expressions for activities (a) of the components of the system were derived for 2 cases: (1) for the equil. of $FeO_{1-\delta}$ with spinel solid soln. of compn. close to that of magnetite: $d(\ln a_1) - 2.21 d(\ln a_1) - 1.17 d(\ln a_2) = 0.305 d(\ln P_O)$; (2) for the equil. of $FeO_{1+\delta}$ with a spinel solid soln. of compn. close to that of Fe_2TiO_4: $d(\ln a_1) - 2.678 d(\ln a_1) - 0.484 d(\ln a_3) = 0.419 d(\ln P_O)$, where $a_1 = a_{FeO}$, $a_2 = a_{Fe_{2/3}O}$, $a_3 = a_{Fe_2TiO_4}$, and $a_4 = a_{Fe_3O_4}$. The defect state of $FeO_{1+\delta}$ was expressed in terms of its extreme states FeO and $Fe_{2/3}O$. The activities of the components were then calcd. with the use of the expressions (1) or (2) and the Gibbs-Duhem equations for the spinel solid solns. and $FeO_{1+\delta}$. Activities exhibit pos. deviations with respect to ideal soln. The activities were calcd. also by a statistical thermodynamic method. The compn. of the solid soln. was expressed as $Fe^{2+}_\lambda Fe^{3+}_{1-\lambda}[Fe^{2+}_{2-c-\lambda}Fe^{3+}_{2c-1+\lambda}Ti^{4+}_{1-c}]O_4$, the ions given in brackets being assumed in octahedral positions.   L. Kuca

REEL/FRAME
19801277

TITLE--REACTION OF CARBON DIOXIDE WITH ALUMINUM DISSOLVED IN A CRYOLITE
   ALUMINA MELT -U-

AUTHOR--OVININ, YU.I.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(4), 50-2

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CARBON DIOXIDE, ALUMINUM ALLOY, ALUMINA, CRYOLITE, FUSED SALT,
   EXTRACTIVE METALLURGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0150
                               STEP NO--UR/0136/70/043/004/0050/0052
CIRC ACCESSION NO--AP0132437
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0132437   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LAB. EXPTS. WERE CARRIED OUT TO STUDY THE EFFECTS OF VARIOUS VARIABLES ON THE KINETICS OF PROCESSES TAKING PLACE BETWEEN AL AND CO_2 IN THE ELECTROCHEM. MANUF. OF AL. AL IS CONVERTED INTO AL_2O_3 ACCORDING TO THE REACTION 2AL PLUS $3CO_2$ EQUALS AL_2O_3 PLUS 3CO (1) AND ALSO BY 2AL PLUS 3CO EQUALS AL_2O_3 PLUS 3C (2). SAMPLES OF MOLTEN AL (BOTTOM LAYER) AND ELECTROLYTE WERE PLACED IN AN AIRTIGHT THERMOSTRATED VESSEL MADE OF FUSED CORUNDUM OR BN, PROVIDED WITH INLET AND OUTLET TUBES FOR GAS AND A THERMOCOUPLE. THE RATE OF REACTION (1) WAS MEASURED BY DETG. THE CO CONTENT AND CO_2-CO RATIO IN THE OUTLET GAS UNDER A CHOSEN SET OF CONDITIONS, I.E. TEMP. 980-1000DEGREES, CO_2 FLOW RATE 10.4-20.6 ML-CM $PRIME_2$ MIN, DEPTH OF DIPPING OF THE CO_2 INLET TUBE (2-4 CM FROM THE AL SURFACE), COMPN. OF THE ELECTROLYTE (VARYING AMT. OF AL_2O_3, CRYOLITE RATIO 2.5-2.9, ADDN. OF 0-10 WT. PERCENT LIF AND (OR) NACL), AND INTENSITY OF AGITATION. IN A SERIES OF EXPTS., N WAS INTROUDCED BY A SEP. TUBE TO AGITATE THE ELECTROLYTE. TO KNOW THE TOTAL AMT. OF CO, C FORMED IN THE MELT BY REACTION (2) WAS ALSO DETD. IN THE ABSENCE OF AL, NO CO WAS FOUND IN THE OUTLET GAS. IN ALL OTHER CASES, THE VALUE OF CO_2-CO BECAME CONST. WITHIN THE 1ST 30 MIN. ACCORDING TO THE EXPTL. RESULTS, THE AMT. OF AL LOST DUE TO REACTIONS (1) AND (2) IS CONTROLLED BY THE RATE AT WHICH PRODUCTS OF REACTIONS OF AL WITH THE CRYOLITE ALUMINA MELT PASS INTO THE MASS OF MOLTEN ELECTROLYTE.

UNCLASSIFIED

CIRC ACCESSION NO--A.0132437   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--TO MINIMIZE THESE LOSSES IN A COM. OPERATION, THE
CRYOLITE RATIO OF THE ELECTROLYTE SHOULD BEMAINTAINED AT 2.8-2.9 AND THE
LIF AND NACL CONTENTS AT 3.0-3.5 AND SMALLER THAN OR EQUAL TO 1.5 WT.
PERCENT, RESP.

UNCLASSIFIED

1/2   017   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--PREDICTION OF F SUB0 F2 USING EXPANSION INTO NATURAL ORTHOGONAL
   COMPONENTS -U-

AUTHOR-(02)-DVINSKIKH, N.I., NAYDENOVA, N.YA.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 543-546

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MATHEMATICAL SCIENCES

TOPIC TAGS--F LAYER, DIURNAL VARIATION, ORTHOGONAL FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0538   STEP NO--UR/0203/70/010/003/0543/0546

CIRC ACCESSION NO--AP0132726
                          UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD FOR PREDICTING F SUBO F2 CAN BE BRCKEN DOWN INTO THE FOLLOWING STEPS: 1) EXPANSION OF THE DIURNAL VARIATICNS OF MONTHLY F SUBO F22 MEDIANS FOR A PERIOD OF YEARS FOR CNE STATION INTO NATURAL ORTHOGCNAL COMPONENTS; 2) SECONDARY EXPANSICN OF EACH OF THE COEFFICIENTS OF THE FIRST EXPANSION INTO COMPONENTS; 3) DETERMINATION OF THE COEFFICIENTS OF THE SECONDARY EXPANSICN FOR THE CONSIDERED YEAR BY SOLVING THE SYSTEM OF EQUATIONS GIVEN IN THIS ARTICLE FOR CERTAIN MONTHS OF THE YEAR; 4) COMPUTATION OF F SUBO F2 USING THE FORMULA (SHOWN ON MICROFICHE).   THE COORDINATE FUNCTIONS X SUBJK (TAU) REPRESENT THE ANNUAL VARIATION OF V SUBJ AND THE COEFFICIENTS V SUBJK (TAU) SHOW THE YEAR TO YEAR CHANGE IN X SUBJK (TAU). DUE TO THE STABILITY OF THE COORDINATE FUNCTIONS X SUBJ AND X SUBJK, EXPANSION INTC NATURAL ORTHOGCNAL COMPONENTS NEED BE DONE ONLY CNCE EVERY FEW YEARS. THEN ASSUMING THE COORDINATE FUNCTIONS TO BE KNOWN, THE EXPANSION COEFFICIENTS FOR SUBSEQUENT MONTHS CAN BE FOUND USING TEH EXPRESSION (SHOWN ON MICROFICHE), WHERE F(T, TAU, T) ARE THE KNOWN DIURNAL VARIATIONS OF THE MONTHLY F SUBO F2 MEDIANS FOR THESE MONTHS.   FACILITY: SIBERIAN INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

USSR

UDC 621.317.337

DVINSKIKH, V. A., NAUMENKO, YU. P.

"Self-Excited Oscillator Method of Measuring the Q-Factor of Microwave Reson-ators"

V sb. Nekotor. vopr. izmereniy i stat. radiofiz (Some Problems of Measurements and Statistical Radiophysics--collection of works), Saratov, Saratov University, 1971, pp 15-22 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5A204)

Translation: The investigated self-excited oscillator method of measuring the loaded and natural Q-factor of resonators in the microwave range is based on including the tested resonator in the external feedback circuit of a wide-band traveling-wave tube amplifier and determination of the frequency shift of the autooscillations on variation of the phase shift in the closed system con-taining in addition to the traveling wave tube and resonator a directional responder, a phase shifter and an alternating attenuator. The device built for experimental checking of the two known measurement procedures -- static and dynamic -- is described. The Q-factor measurement error in the range of values of 200-1,000 is <8-10%.

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USSR   UDC: 621.317.733

DVINSKIKH, V. A., PARUSOV, V. P.

"Measurement Bridge Circuits Which Operate in the Self-Excitation Mode"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 25-26 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A351)

Translation: A method is proposed for measuring impedance components by means of circuits in which the measurement bridge is connected in the feedback circuit of a selective amplifier. When certain amplitude and phase ratios exist in such circuits, self-oscillations arise with amplitude and frequency which are uniquely determined by the measurement bridge parameters for predetermined parameters of the selective amplifier. The theory of the measurement method and procedure is briefly presented. E. L.

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USSR   UDC: 621.317.335.3

DVINSKIKH, V. A., POMINOV, M. V.

"Measurement of the Parameters of Dielectrics on Superhigh Frequencies in
a Self-Excited Oscillator Circuit"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 1), Novosibirsk, 1970, pp 90-91 (from RZh-Radiotekh-
nika, No 1, Jan 71, Abstract No 1A356)

Translation: The relationship between changes in phase and frequency in a
self-excited oscillator may be used for measuring the parameters of dielec-
trics. A schematic diagram of the measurement device is given. A closed
self-excited oscillatory system is formed by a wide-band SHF amplifier,
phase shifter, measurement cavity and variable attenuator; there is an oscil-
lator which can be used for accelerating-electrode modulation of the ampli-
fier. Changes in the frequency of self-excited oscillations are indicated
by a frequency detector with a meter connected to the output. When the
dielectric to be studied is placed in the resonator, there is a change in Q
and resonant frequency. The resultant changes in the mode of the system
are indicated. These changes may be used in conjunctions with relations

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USSR

DVINSKIKH, V. A., POMINOV, M. V., Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1, Novosibirsk, 1970, pp 90-91

given by the method of small perturbations to derive formulas for determining the parameters of the dielectric. The order of measurement is indicated. In view of its high sensitivity, the circuit may be used for measuring the per- mittivity of gases. Bibliography of three titles. E. L.

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USSR

UDC 621.385.632

DVINSKIKH, V.A., KOGAN, V.L., SHCHERBAKOV, V.N.

"Measurement Of The Noise Factor At The Outer Points Of The Operating Frequency Bands Of Low-Power TWTs"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T 2 (Proceedings Of The All-Union Scientific-Technical Conference On Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 23-26 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A178)

Translation: In order to tune every low-noise traveling-wave tube it is necessary simultaneously to have information on the noise factor in all operating frequency bands. However, it is possible to reduce the number of measurements of the noise factor to two (at the outer points of the band) if a priori data on the concave character of the dependence of the noise factor on the frequency is employed. The work in question is devoted to a justification of this type of dependence. In conclusion, a two-channel measurer of the noise factor is described, which assures simultaneous measurement at two points of the band. 3 ref. N.S.

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USSR

UDO 621.385.632

DVINSKIKH, V.A.

"Evaluation Of The Nonlinear Properties Of A TWT In The Case Of A Harmonic Input Signal With The Aid Of An Equivalent Quadripole"

Translation: In order to evaluate the nonlinear properties of a traveling-wave tube, an equivalent quadripole is considered with an input signal with a floating operating point. The levels of the second harmonic in an output signal computed with the aid of the quadripole and by nonlinear theory match satisfactorily only in a saturation regime of the TWT. 7 ref. Summary.

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USSR

DVINSKIKH, V.A.

UDC 621.385.623.4:621.317.74

"Analysis Of Circuits For Measurement Of Output Power And The Amplification Factor Of Transit Multicavity Klystrons"

Elektron. tekhnika. Nauchno-tekhn. sb. Kotrol'no-izmerit. apparatura (Electronic Technology. Scientific-Technical Collection. Supervisory And Measuring Equipment), 1970, Issue 3(21), pp 33-42 (from RZh--Elektronika i veye primeneniye, No 4, April 1971, Abstract No 4A165)

Translation: On the basis of a diagram of the transmission of a signal in a transit multicavity amplifier klystron, an equivalent circuit is obtained of the amplifying part in the form of a current source. The change is estimated of the parameters of a klystron operating in a matched regime, resulting from instability of the supply voltage. An analysis is given of the error of cir- cuits for measurement of the dynamic parameters of klystrons in amplifying and self-excited oscillation regimes. It is shown that the additional error origin- ating in a self-excited oscillation regimes. It is shown that the additional error originating in a self-excited oscillation regime is comparatively small. 6 ref. Summary.

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USSR

UDC: 621.317.373

DVINSKIKH, V. A., POMINOV, M. V.

"A Self-Excited Oscillator Circuit for Measuring the Phase Characteristics of SHF Amplifiers"

Translation: In practical testing of SHF amplifiers, self-excited oscillator circuits are used which have the advantage of simplicity and high sensitivity. A schematic diagram of a self-excited measurement oscillator is given. Any change in the phase displacement of the amplifier leads to a displacement in the frequency of the oscillations, which is determined by a frequency deviation meter or by a wave meter. The change in the phase displacement of the amplifier may be calculated from the measured value of the frequency shift for a known slope of the phase-frequency characteristic of the self-excited oscillator. The sensitivity of the system is determined by the potentialities of the frequency deviation meter and the wave meter, and amounts to 0.5-1°. The phase displacement may also be determined by

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USSR

DVINSKIKH, V. A., POMINOV, M. V., Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2, Novosibirsk, 1970, pp 85-86

using the phase displacement of a phase shifter to compensate. Under certain conditions, this method may give a sensitivity of up to thousandths of a degree. Bibliography of four titles. E. L.

ASTAF'YEVA, L. V., GAVRILOV, F. F., and DVINYANINOV, B. L.

"Luminescence Stability of LiH-Bi Crystals"

Abstract: This short communication presents the results of experiments regarding the luminescence of LiH-Bi crystals under large and small dosages of irradiation with light of wavelength 365 nm. The large dosages amounted to 10^8 lux·sec and the small to 10^5 lux sec. Supplied from one of the lines of a mercury arc spectrum, the light was obtained through the use of spectrophotometer SF-4. It was established, from preliminary experiments, that the 365-nm line stimulated the greatest changes in luminescences from these crystals. Curves are given showing the change of luminescence intensity with time and its subsequent persistence in darkness, and the effect of large dosages together with annealing at a temperature of 500° C over periods of varying length. These curves show that photochemical processes of the type that occur in lithium hydride under the action of light may lead to destruction of the glow centers. The authors are associated with the Ural Polytechnical Institute imeni S. M. Kirov.
1/1

Acc. Nr: Abstracting Service: Ref. Code:
AT0050587   CHEMICAL ABST. *517*   *4R0/39*

94965e **Effect of light on the spectra and intensity of the luminescence of lithium hydride crystals activated by magnesium, indium, tin, and lead.** Gavrilov, P. F.; Dvinyaninov, B. L.; Svinyakov, V. I. (Ural. Politekh. Inst. im. Kirova, Sverdlovsk, USSR). *Izv. Vyssh. Ucheb. Zaved., Fiz.* 1970, 13 (1), 152-3 (Russ). The LiH crystals were irradiated at room temp. by using the lamp SVDSh-250. The course of the luminescence spectra of the non-irradiated LiH crystals depended on the compn. of the activators, and on the technology of their prepn. The crystals activated with Mg, In, and Sn gave a red and blue luminescence with max. at 640-50, and 450-70 nm. With samples activated with Mg there was also a yellow luminescence at 560 nm. The crystals LiH(Pb) gave only a red luminescence at 680-90 nm. The crystals of LiH(Mg) and LiH(In) changed after irradn., the predominant red being transformed into a blue one, the degree of the change depending on the exciting wavelength. After irradn. of LiH(Pb), the position and the shape of the band remained unchanged; the change was obsd.

REEL/FRAME
19810577

AT0050587

at the integral intensity only. The intensity of the red lumines-
cence decreased sharply with increasing irradn. dose. The de-
gree of this change depended on the activator, and it increased in
the sequence: In, Mg, Sn, and Pb (the stability of the crystals
towards light decreased). The intensity of the yellow band in
LiH(Mg) changed analogously. The intensity of the blue
luminescence band of the majority of the studied crystals changed
very little with increasing radiation dose, with the exception of
some crystals of LiH(In) and LiH(Mg), where the intensity of the
blue band rose with the irradn. dose. The weakening of the
intensity of the red and yellow luminescence was attributed to
the origin of strong absorption bands in the red or yellow region,
accompanied by the simultaneous destruction of the red and
yellow luminescence centers, a result of the irradn. process.
The increase in the blue luminescence was explained by the forma-
tion of new luminescent centers, due to the interaction of the sur-
face of the crystals with the surrounding atm. This interaction
proceeds much faster during irradn. than during its absence.
                                                   E. Svatek

19810578

USSR   UDC 577.1:615.7/9

DVIZHKOV, P. P., TOLGSKAYA, M. S.

"Histogenesis of Silicotic Fibrosis"

Sb. tr. N.-i. in-t gigiyeny truda i profzabolevaniy. Gruz SSR
(Collected Works of the Scientific Research Institute of Industrial
Hygiene and Occupational Diseases. Georgian SSR), 1970, Vol 12,
pp 131-134 (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct 70,
Abstract No 19 F1796 by A. Ignat'yev)

Translation: Silicosis is characterized by increased permeability
of the vascular walls due to SiO_2 with the leakage of plasma proteins
into lung tissues and subsequent development of the fibrous struc-
tures of connective tissue, the bulk of which is made up of muco-
proteins not found in normal collagen.

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DVORCHIK, S. Ye.

EXPERIMENTAL STUDY OF AN AC LIQUID-METAL CONDUCTION MACHINE

[Abstract of a Paper by Yu. A. Baranov, L. G. Vlasenko, S. Ye. Dvorchik, Ya. Ya. Zandart, V. K. Makarevich, V. Ye. Strizhak, L. M. Tolmach, S. R. Trotsky; given at the Magnetohydrodynamic Conference, pp 140-142]

A study was made of a high-temperature single-phase machine with a C-type magnetic excitation system, four pair-wise connected, four pair-wise connected; channels bifilar-arranged were executed from KhL8N10T steel 0.5 mm thick; they have a constant cross section with outside dimensions of 16.6 × 6.4 mm² and an active length of 250 mm. They are electrically connected to each other and to the sectional primary turn of the transformer (soldering the lateral faces). The flow of metal in each pair of channels is opposite. The machine has electrical insulation with thermal stability to 600°C, measuring turns for determining the magnetic fluxes and several thermocouples.

Depending on the operating mode in the experiment, various switchings of the windings were realized:

1) In the pump mode the excitation winding and the output winding of the transformer were fed from a constant energy source;

2) In the generator mode independently of the excitation, the excitation winding was fed from an outside source, and the transformer winding was connected to the useful load.

3) In the generator mode with self-excitation of the winding, the capacitance and the useful load were included according to the scheme in Figure 1.

The studies were made on a sodium loop with a sodium temperature of 300-500 °C.

The characteristic features of the conduction machines of this type and, in particular, the characteristic features of the parallel hydraulic coupling of pairs of channels leading to spurious currents through the bypass loops of circuit from the sign-variable magnetic field were noted.

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1/2   032   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--OXIDATIVE PHOSPHORYLATION IN THE SPINAL CORD OF IRRADIATED ANIMALS
-U-

AUTHOR-(02)-DVORETSKIY, A.I., REVA, A.D.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 309-10

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHOSPHORYLATION, SPINAL CORD, CAT, MITOCHONDRION, RADIATION
BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/B10 STEP NO--UR/0205/70/010/002/0309/0310

CIRC ACCESSION NO--AP0139605
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0139605   UNCLASSIFIED   PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF X IRRADN. ON OXIDATIVE
PHOSPHORYLATION IN THE SPINAL CORD HAS BEEN STUDIED IN CATS. OXIDATIVE
PHOSPHORYLATION WAS ESTD. IN POOR AND OPTIMUM INCUBATION MEDIA, AND THE
DEPENDENCE ON MEDIUM AND SUBSTRATE WAS FOUND.   A LOWER RADIORESISTANCE
WAS OBSD. IN THE POOR INCUBATION MEDIUM.   AN INHIBITION OF OXIDATIVE
PHOSPHORYLATION WAS OBSD. 5 DAYS AFTER IRRADN. WITH A DOSE OF 1.2 KR
USING ALPHA KETOGLUTARATE AS SUBSTRATE.   SINGLE IRRADN. WITH A DOSE OF
6 KR INHIBITED OXIDATIVE PHOSPHORYLATION WITHIN 48 HR USING ALPHA
KETOGLUTARATE, GLUTAMINE AND SUCCINATE, AND INCREASED THE PERMEABILITY
OF NAOH INTO THE SPINAL CORD MITOCHONDRIA.   THE ADDN. OF K PRIME
POSITIVE (4.5 TIMES 10 PRIME NEGATIVE4 M) TO THE OPTIMUM INCUBATION
MEDIUM DID NOT AFFECT OXIDATIVE PHOSPHORYLATION IN THE IRRADIATED SPINAL
CORD.   FACILITY: DNEPROPETROVSK. GOS. UNIV., DNEPROPETROVSK,
USSR.

UNCLASSIFIED

USSR

UDC: 519.2

DVORETSKIY, M. L.

"Textbook on Variational Statistics. (For Forestry Experts)"

Posobiye po variatsionnoy statistike. (Dlyz lesokhozyaystvennikov) (cf. English above), Moscow, "Les. prom-st'", 1971, 104 pp, ill. 27 k. "Knizh. letopis'", 1971, No 28, 28-29 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V167 K)

[No abstract]

1/1

USSR

UDC: 539.16.04:621.039.512.45

KLIMENKOV, V. I., DVORETSKIY, V. G.

"Experimental Correlation of Data on Bombardment of Graphite in Reactors to Universal Scale of Damaging Fast Neutron Flux"

Moscow, Atomnaya Energiya, Vol 34, No 2, Feb 73, pp 93-96.

Abstract: Calibration experiments were conducted as follows: an ampule containing a specimen of graphite and an activation threshold detector (such as Ni^{58}) was placed in a reactor. Bombardment was performed at the point in the reactor for which correlation was required. The specific activity of the threshold detector was used to determine the equivalent fission neutron flux. The residual radiation increment in resistivity and bombardment temperature of the graphite were then determined. The experimental values agreed quite well with calculated values.

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DVORETSKIY S.A.
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SPRS 59303
6-73

VII-4e. POSSIBLE SOURCE OF UNCONTROLLED ALLOYING OF EPITAXIAL LAYERS OF
GALLIUM ARSENIDE IN THE GAS TRANSPORT METHOD

[Article by Yu. G. Sidorov, S. A. Dvoretskiy, L. F. Vasil'yeva, Novosibirsk,
Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh
Kristallov i Plenok, Russian, 12-17 June, 1972, p 90]

This paper was devoted to determining the causes as a result of which non-
reproducibility of the properties of the gallium arsenide layers and the growth
conditions of high-quality layers in the gas transport method takes place. A
study was made of the effect of different parameters (the deposition temperature,
the gas phase composition) on the electrophysical properties of the layers.
The possibility of alloying the epitaxial layers of gallium arsenide with
oxygen is discussed.

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USSR

UDC 62-525:621.375

DVORETSKIY, V. M., MOLCHANOV, G. G., POPOV, A. I., SHCHEPIN, E. K.

"A Fluidics Element"

USSR Author's Certificate No 295910, Filed 21/11/69, Published 9/04/71,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychis-
litel'naya Tekhnika, No 11, 1971, Abstract No 11 A131 P).

Translation: A fluidics element is suggested, containing two counter con-
nected supply nozzles, a drain chamber, and an output chamber with a non-
moving dividing barrier between them. In order to increase the accuracy,
a control chamber with a membrane, on which is fastened a moving barrier
which intersects the power stream, is connected to the output chamber of
the element.

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1/2   016
UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--LEVEL SCHEMES FOR BARIUM 136 AND BARIUM 138 FROM N, GAMMA REACTIONS
-U-

AUTHOR-(04)-GROSHEV, L.V., DVORETSKIY, V.N., DEMIDOV, A.M., RAKHIMOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(4), 768-76

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--GAMMA SPECTRUM, BARIUM ISOTOPE, THERMAL NEUTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/2029   STEP NO--UR/0048/70/034/004/0768/0776

CIRC ACCESSION NO--AP0138883
UNCLASSIFIED

UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A BA TARGET ENRICHED IN PRIME135
BA AND PRIME137 BA, WAS IRRADIATED WITH THERMAL N, AND GAMMA SPECTRA
WERE MEASURED WITH GE(LI) DETECTORS. THE ENERGY AND RELATIVE INTENSITY
OF 74 GAMMA LINES FROM THE NATURAL MIXT., PRIME136 BA, AND PRIME138 BA
ARE TABULATED. SCHEMES OF ENERGY LEVELS AND TRANSITIONS FOR BOTH
NUCLIDES ARE INTERPRETED AND SUMMARIZED IN DECAY SCHEMES.
FACILITY: INST. AT ENERG IM. KURCHATOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2   031   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--THE DE-EXCITATION OF EVEN ODD NUCLEI NEAR THE MAGIC NUBMER N EQUALS
   82 AFTER THERMAL NEUTRON CAPTURE -U-
AUTHOR-(04)-GROSHEV, L.V., DVORETSKIY, V.N., DEMIDOV, A.M., ALVASH, M.S.

COUNTRY OF INFO--USSR

SOURCE--LA-TR-69-29, FROM REPORT IAE-1780. 13P. DEP. CFSTI

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, MATERIALS

TOPIC TAGS--ISOTOPE, BARIUM, CERIUM, NEODYMIUM, NEUTRON CAPTURE,
   SPECTROSCOPIC ANALYSIS, GAMMA IRRADIATION, THERMAL NEUTRON, LITHIUM,
   GERMANIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0796
                                    SIC NO--UR/0000/70/000/000/0013/0013
CIRC ACCESSION NO--AT0131390
                        UNCLASSIFIED

CIRC ACCESSION NO--AT0131390   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH AN EXTERNAL BEAM OF THERMAL
NEUTRONS, THE GAMMA RAY SPECTRA OF EVEN ODD NUCLEI OF BARIUM (PRIME135
BA, PRIME137 BA, PRIME139 BA) AND CERIUM (PRIME139 CE, PRIME141 CE,
PRIME143 CE) WERE MEASURED WITH THE HELP OF A SINGLE CRYSTAL GE(LI)
SPECTROMETER. THE SPECTRA OBTAINED TOGETHER WITH THE GAMMA RAY SPECTRA
OF ODD NEODYMIUM NUCLEI MADE IT POSSIBLE TO DISCOVER CERTAIN
REGULARITIES IN THE DE-EXCITATION OF EVEN ODD NUCLEI WITH NEUTRON
NUMBERS N EQUALS 79, 81, 83, AND 85, TESTIFYING TO DIRECT THERMAL
NEUTRON CAPTURE BY EVEN ODD NUCLEI IN THE NEIGHBORHOOD OF THE MAGIC
NUMBER N EQUALS 82.   FACILITY: AKADEMIYA NAUK SSSR, MOSCOW.
INSTITUT ATOMNOI ENERGII.

UNCLASSIFIED

USSR

DVORINA, L. A.

UDC 669.782.053.28

"Silicothermal Method of Production of Silicides"

Metalloterm. Protsessy v Khimii i Metallurgii [Metallothermal Processes in Chemistry and Metallurgy -- Collection of Works], Novosibirsk, Nauka Press, 1971, pp 66-72 (Translated from Referativnyy Zhurnal Metallurgiya, No 3, 1972, Abstract No 3G148 by the author)

Translation: An analysis is presented of the author's data plus literature data on the study of conditions of formation of silicides during reduction of metal oxides by Si in a vacuum. The reduction of metal oxides by Si occurs with a stage of successive conversion of higher oxides to lower oxides, followed by the formation of intermediate 0-containing products, which interact with Si to form Si-rich silicides. The process continues in the direction of enrichment of the products of the interaction with the metal and the formation of metal-rich silicides. The influence of such factors as the preparation of the charge and its compacting, temperature, holding time, pressure in the reaction space and reactor material on the process of formation of silicides is established. 1 figure; 22 bibliographic references.
1/1

CSO: 1842-W

- END -

80

USSR

DVORINA, L. A., and POPOVA, O. I., Institute for Problems of Material Science, Academy of Sciences UKrSSR

"Preparation of Nickel Disilicide and Its Chemical Properties"

Abstract: A study was made of methods of elemental synthesis and silicothermal reduction of nickel oxide in vacuum. The starting materials were metallic nickel in powder from (GOST 9722-61), nickel oxide, and powdered metallic silicon (KP-1 grade). The investigation was conducted in the 500-1000° C range. Nickel disilicide is formed at 900° C after 1 hr exposure by the direct reaction of elementary nickel and silicon. In the silicon-thermal reduction of nickel oxide in vacuum, the reaction mixture is heated at 800-1200° C with intermediate exposures for 1 hr at 100° C intervals. The final exposure at 1200° C lasts 2 hrs. Nickel disilicide is stable toward mineral acids, alkalies, and other chemically chorrosive agents.

1/1

- 40 -

D

68593n Heat transfer during the condensation of moving vapors of hydrocarbon liquids. Dvoiris, A. D.; Ben'yaminovich, O. A. (USSR). Teploenergetika 1970, 17(1), 59-61 (Russ). The heat transfer during condensation of C_3H_8 was studied in the presence of CH_4 and C_2H_6 mixts. in the concn. range 0-5%. The exptl. data were correlated by the equation of Kutateladze or, with a higher degree of precision by the relation proposed by Boiko and Kruzhilin (1966). This relation was obtained by expanding the Reynolds analogy to 2-phase flows.   M. Shelef

7di

TITLE--CALORIMETRIC FLOW METER USED IN ALUMINA PRODUCTION -U-

AUTHOR-(03)-DVORKIN, A.S., KAMRAZE, A.N., FITERMAN, M.YA.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(5), 56-8

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--ALUMINA, INDUSTRIAL PRODUCTION, CALORIMETER, FLOW METER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0329   STEP NO--UR/0136/70/043/005/0056/0058

CIRC ACCESSION NO--AP0137434
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0137434   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRINCIPLE OF THE TITLE FLOW METER IS THE HEAT EXCHANGE BETWEEN THE MEASURED STREAM AND AN AUXILIARY STREAM OF A HEAT EXCHANGE MEDIUM (E.G. WATER) WHICH FLOWS AT A CONST. RATE THROUGH A JACKET SURROUNDING THE TUBE WITH THE MEASURED STREAM. SEMICONDUCTOR THERMISTORS ARE USED FOR TEMP. MONITORING. A REGULAR HEAT BALANCE OF THE AUXILIARY STREAM IS CARRIED OUT, AS THE RESULT OF WHICH THE HEAT TAKEN UP BY THE AUXILIARY STREAM FROM THE MEASURED STREAM IS DETD., AND FROM THIS THE MASS OF THE MEASURED STREAM IS CALCD. THE RANGE OF TRIED TEMPS. OF THE MEASURED STREAM (SOLN. OF NA ALUMINATE) WAS 50-100DEGREES, WHILE THAT OF THE AUXILIARY STREAM (WATER) WAS 5-30DEGREES. THE FLOW RATES OF THE MEASURED STREAM WERE 400-4000 KG-HR. THE ERROR OF MEASUREMENT WAS PLUS OR MINUS 1.5PERCENT, WHILE THE DURATION OF THE TRANSITION PERIOD, WHEN THE FLOW RATE WAS BEING CHANGED RAPIDLY BY 50PERCENT, WAS 20 SEC.

UNCLASSIFIED

USSR

UDC 621.372.837(088.8)

KOZLOV, V. I., STAVITSKAYA, G. S., KHOTENOVSKAYA, T. S., DVORKIN, O. E.

"Fast Superhigh Frequency Switch"

USSR Author's Certificate No 253880, Filed 23 Jul 69, Published 3 Mar 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B150P)

Translation: The proposed superhigh frequency switch is executed in the
form of a T-junction on two arms of which varactor diodes with tuning loops
are installed. In order to expand the operating frequency band, the external
voltage is fed out of phase to two groups of diodes installed on each arm of
the switch. The diodes of the first group are tuned to series resonance with
a negative bias on the lower frequencies of the operating range, and the diodes
of the second group, with positive bias on the upper frequencies of the operat-
ing range. There is one illustration.

1/1

USSR   UDC: 621.397

ZELENSKIY, V. A., MERKADER, L. P., DVORKIN, S. A.

"Interference in a Television Channel due to Nonlinear Distortions of the
Television Signal Subcarrier"

Translation: It is shown that the magnitude of nonlinear interference in
the form of the second and third harmonics of the carrier frequency depends
to a considerable extent on the brightness of individual sections of the
TV image. The corresponding relationships are given in the form of equations
and graphs. Some recommendations are given on evaluating the given type of
interference.

1/1

USSR

DVORKIN, V. Ya., and KISELEV, G. V.

"The Effects of Intoxication With Organophosphorus Inhibitors of Cholinester-
ase on the Metabolism of Individual Phospholipid Fractions in the Rat Brain"

Byul. Eksperim. Biol. i Med., Vol 74, No 11, 1972, pp 51-53 (from Referativnyy
Zhurnal -- Biologicheskaya Khimiya, No 5, 1973, Abstract No 5F2319)

Translation: Intoxication of rats with preparation LG-63 (an organophosphorus
inhibitor of cholinesterase) in sublethal doses, 5 mg/kg, did not signifi-
cantly alter the rate of phosphate group metabolism of the phospholipid
fractions in the brain, but did decrease the content of triphosphoinositides
by 8%, while increasing the content of the diphosphoinositides by 14%.
These changes are regarded as reflecting the metabolic reaction of the
brain tissue to hypoxia which develops during intoxication with LG-63.

1/1

DVORKIN, V. Ya.

JPRS 58003

17 January 1973

EFFECTS OF LSD, CHLORPROMAZINE, AND ORGANOPHOSPHOROUS CHOLINESTERASE INHIBITORS ON BRAIN

CONTENTS

[I - USSR - C]

UDC 615.831-008.939.55-092.9-02:577.153.9.025.3

METABOLISM OF INDIVIDUAL PHOSPHOLIPID FRACTIONS IN THE BRAIN OF MICE INTOXICATED WITH ORGANOPHOSPHOROUS CHOLINESTERASE INHIBITORS

[Article by V. Ya. Brodskiy and G.V. Moshkov, Laboratory of Brain Metabolic Regulation, Institute of Histology, USSR Academy of Sciences, Leningrad; Moscow, Ukrainskiy Biokhimicheskiy Zhurnal, No 11, 1972, pp 55-59]

Intoxication by an organophosphorous cholinesterase inhibitor -- a lethal dose (5 mg/kg) of the drug DFP -- did not alter a significant effect on the intensity or metabolism of phosphate groups in the labelled phospholipid fractions in the brain of rats, but it did result in a significant change in the concentrations of polyphosphoinositides in the brain tissues. Triphosphoinositide concentration decreased by 8 percent and diphosphoinositide concentration increased by 14 percent. The fractions of the remaining phospholipid fractions investigated did not change. The concentrations in the polyphosphoinositide fraction in the brain of rats intoxicated with a cholinesterase inhibitor are un-related to the metabolic reaction of brain tissue in response to poisoning by this inhibitor.

We had shown previously that intoxication by organophosphorous inhibitors (OPI) of cholinesterase did not affect the concentration or total phospholipids (PL) in the cerebral hemispheres of rats, and that changes in the total phospholipid intensity only when OPI intoxication was accompanied by marked reduction of body temperature. A study of total PL cannot produce a complete answer to the question on the effect

Pharmacology and Toxicology

DVORKIN, V. YA., ROZENGART, V. I., TOFILO, A. P. and CHETVERIKOV, D. A., Laboratory of the Regulation of Brain Metabolism, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, and Chair of Biochemistry, First Medical Institute imeni I. P. Pavlov, Leningrad

"Mechanisms of Action of Organophosphorus Cholinesterase Inhibitors on Phospholipid Metabolism in the Brain"

Abstract: Poisoning of rats with the cholinesterase inhibitor O-ethyl-S-hexylmethylthiophosphonate (LG-63) in a sublethal dose did not affect the content or rate of metabolism of phosphate groups of phospholipids in the brain, whereas poisoning of mice with LG-63 in the same dose (5 mg/kg) significantly lowered the intensity of phospholipid metabolism in the brain. The difference was due to the fact that in mice, poisoning with LG-63 was accompanied by a pronounced drop in body temperature (by 9.2°C), while the drop in body temperature of rats (2.7%) was insignificant. Poisoning with LG-63 of rats subjected to acute hypoxia (created in a chamber with an air pressure

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USSR

DVORKIN, V. YA., et al., Moscow, Voprosy Meditsinskoy Khimii, Vol
16, No 1, Jan/Feb 70, pp 63-69

of 240 mm Hg) produced a greater decrease in the rate of phospholipid
metabolism in the brain and a more pronounced hypothermia than in
rats poisoned with LG-63, but not subjected to hypoxia. This in-
dicated that an inhibiting action of LG-63 on the brain phospholipid
metabolism was exerted only when administration of this poison was
followed by a significant drop in body temperature. When the body
temperature of mice was kept at a normal level after poisoning with
LG-63, the rate of phospholipid metabolism in the brain increased.
The lethality of the poisoned mice also increased evidently the
development of hypothermia in mice was a protective reaction.

2/2

Acc. Nr:
ЛР0036568

Ref. Code: UR 0301

ANALYSIS OF THE EFFECT OF PHOSPHOORGANIC CHOLINE ESTERASE INHIBITORS ON PHOSPHOLIPIDS METABOLISM IN BRAIN

Dvorkin, V. Ya.; Rozengart, V. I.; Tofilo, A. P.; Chetverikov, D. A.

Laboratory of Brain Metabolism Regulation. I. P. Pavlov Institute of Physiology and The Department of Biochemistry I. P. Pavlov I-st Medical Institute, Leningrad

The effect of intoxication by phosphoorganic choline esterase inhibitor (LG-63) on the content and rate of exchange of phosphate groups of phospholipids in rat and mice brain has been studied. In rat the intoxication with sublethal doses of LG-63 had no effect on the rate of phospholipids renewal in brain. On the oter hand the administration of LG-63 into mice at the same dose leads to decrease in the metabolism of phospholipids by 27% as compared to the control. The different picture obtained is explained by *** significant body temperature fall in mice (an average by 9.2°). In rats the hypothermia was at a much low level. Intoxication of hypoxic rats with LG-63 leads to more pronounced decrease in phospholipids exchange in brain and to more pronounced hypothermia as compared to rats suffered with oxygen insufficiency only. So the inhibitory action of LG-63 on brain phospholipids metabolism was detected only when intoxication with LG-63 was followed by the significant decrease in body temperature.

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220

D. A.

USSR

UDC 669.715'3:620.178.3

DVORKIN, YA. L.

"The Effect of Parameters of a Two-Frequency Cycle on the Longevity of Specimens of D16T Alloy"

Moscow, Zavodskaya Laboratoriya, No 4, 1973, pp 464-466

Abstract: Test results of D16T Duralumin flat specimens with stress concentration under the action of various biharmonic cycles are analyzed. Low frequency and high-frequency load components withstood 18-22 and 10,000- 12,000 cycles/min, respectively. The fatigue curves, experimentally derived for σ_α=const at various values of vibrational load, comply with the empirical dependence between longevities at two- and one-frequency loads. From a nomogram plotted from experimental data, the longevity at two- frequency loads can be evaluated. Five figures, three tables, five bibliographic references.

1/1

USSR
DVORKIN, YA. L.

UDC 669.715'3:620.178.3

"The Effect of Parameters of a Two-Frequency Cycle on the Longevity of Specimens of D16T Alloy"

Moscow, Zavodskaya Laboratoriya, No 4, 1973, pp 464-466

Abstract: Test results of D16T Duralumin flat specimens with stress concentration under the action of various biharmonic cycles are analyzed. Low-frequency and high-frequency load components withstood 18-22 and 10,000-12,000 cycle/min, respectively. The fatigue curves, experimentally derived for σ_c =const at various values of vibrational load, comply with the empirical dependence between longevities at two- and one-frequency loads. From a nomogram plotted from experimental data, the longevity at two-frequency loads can be evaluated. Five figures, three tables, five bibliographic references.

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USSR

UDC 621.314.58(088.8)

ZAGORSKIY, V. T., KOZLYAYEV, Yu. D., DVORKINA, G. Sh., MALAKHOV, A. P.,
SHTERNSHIS, V. Yu.

"Direct Thyristor Frequency Converter with Unit for Forced Commutation"

Translation: The circuit for a converter of 3-phase a-c voltage of stable fre-
quency into 3-phase a-c voltage of controlled frequency contains: a rectifier
block (18 thyristors), commutating capacitors, cathode and anode groups of semi-
conductor diodes, and a rectifier commutating device (6 thyristors). It is
proposed to supplement the circuits with two capacitors connected between the
zero point and the anode and cathode buses of the commutation device. The capac-
itors mentioned shunt the reactance of the phases of the feeding transformer and
assist acceleration of the commutation process. Balanced thyristors are connected
into the circuit of the supplementary capacitors for limitation of the pulse
currents, while in the case of formation of a short circuit on the load, unblock-
ing pulses are not presented to the symmetrical thyristors. 1 ill. A. S.

1/1

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USSR

UDC 621.314.61 (088.8)

ZAGORSKIY, V.T., DVORKIN, G.SH., KOZLYAYEV, YU.D. [Novosib. elektrotekhn. in-t svyazi -- Novosibirsk Electrical Engineering Institute Of Communications]

"Device For Maximum Protection Of Solid State Converters"

USSR Author's Certificate No 271639, filed 21 May 68, published 26 Aug 70 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4E673P)

Translation: The device for maximum protection contains a 3-phase current transformer with primary and secondary windings. The primary windings are connected in series to the supply circuit of the solid state converter. The secondary windings of the current transformer are combined into a star and feed an auxiliary 3-phase bridge solid-state rectifier. The load of this rectifier is a saturable choke coil. In emergency conditions the current across the working winding of a choke coil is increased and withdraws its core from a saturation condition. As this takes place the large inductance of the choke coil is fed into the secondary winding of the 3-phase transformer, which limits the rate of increase of the current in the primary circuit of the protected converter. 1 ill. L.R.

1/1

- 16 -

Acc. Nr.:
AP0029109

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii, 1970,
Vol 70, Nr 1, pp 94-97

CONCERNING THE PATHOMORPHOSIS OF INFECTIOUS DISEASES

N. Ya. Dvorkina

On the grounds of a clinical study of 411 cases of infectious psychoses seen from 1946 till 1967 it was possible to establish some structural changes in these forms of disorder. The study demonstrated that with the years there was an altered correlation of acute, protracted and organic forms, a changed incidence of psychoses in acute and chronic forms, the predilectiveness of different psychopathological syndromes. The author stresses that there is a definite general tendency in the diminution of acute psychoses and an increase of the protracted and organic forms. Evidently there is a correspondingly less amount of psychoses with clouded consciousness and an increasing amount of psychoses manifesting with «endogenous», «transitional» psychopathological syndromes. In the opinion of the author there is a close correlation between the pathomorphosis of infectious psychoses and the pathomorphosis of infectious diseases in general. It is assumed that the main reason of such processes is the altered interaction of the infection and the macroorganism. The pathomorphosis of infectious diseases as the author marks demonstrates an absence of principle differences between «exogenous» and «endogenous» clinical pictures of psychoses.

REEL/FRAME

19680620

USSR

MINAKOV, A. G., Candidate of Technical Sciences, MINAKOV, V. A.,
Candidate of Technical Sciences, and DVORKINA, S. Ye., Engineer,
Scientific Research Institute Avtosteklo

"Production of Stemalite From Low-Alkaline Glasses"

UDC 669.11:691.6

Abstract : The developed technology of the production of annealed Stemalite from low-alkaline glass with a high content of Ca
(Marblite) is described. This technology uses chemically stable,
inexpensive, and non-toxic glazes. Some technological and molding
properties of low-alkaline with high Ca-content glasses, the production of which is adopted industrially, are indicated. The temperature dependences of the viscosity of melts of standard silicate glasses of industrial composition and low-alkaline with high
Ca-content glasses on the base of blast furnace slags are discussed by reference to a diagram. The described new type of Stemalite,
besides reduction of prices of glass and enamel compositions, can be cut and
processed directly on the building platform. One illustr., one biblio. ref.

1/1

1/2   008   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--EFFECT OF A PRIMARY AMINE IN THE REACTION OF
  DICYCLOHEXYLCARBODIIMIDE WITH CARBOXYLIC ACIDS -U-
AUTHOR-(03)-MIRONOVA, D.F., DVORKO, G.F., SKURATOVSKAYA, T.N.

CCUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 190-1

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PRIMARY AMINE, CYCLIC GROUP, IMIDE, CARBOXYLIC ACID, UREA
  DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2137   STEP NO--UR/0073/70/036/002/0190/0191

CIRC ACCESSION NO--AP0125720
                        UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0125720   PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM THE REACTION OF
DICYCLOHEXYLCARBODIIMIDE WITH HOAC IN THF CONTG. PHNH SUB2 OF P-MEC SUB6
H SUB4 NH SUB2, IT IS POSSIBLE TO ISOLATE C SUB6 H SUB11 NHCON ACC SUB6
H SUB11 (I), NOT ISOLATED FROM THE REACTION IN CCL SUB4; NOR IS THE
ANALOGOUS ACYLUREA ISOLATED WHEN CLCH SUB2 SO SUB2 H IS USED. THE RATE
OF AMIDE FORMATION FROM CLCH SUB2 CO SUB2 H DOES NOT DEPEND ON CONCN. OR
THE NATURE OF THE AMINE, BUT INCREASES FOR REACTION WITH HOAC ON ADDN.
OF A PRIMARY AMINE. THIS IS ATTRIBUTED TO A CYCLIC TRANSITION STATE IN
WHICH THE AMINE FURNISHES A PROTON FOR FORMATION OF I WHICH FORMS THE
AMIDE IN A LATER STAGE OF THE REACTION.   FACILITY: INST. ORG.
KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 621.317:621.397.132(088.8)

KRIVOSHEYEV, M. I., DVORKOVICH, V. P., PLAKSYUK, S. G., BOLOVINTSEV, Yu. M.

"A Device for Measuring the Parameters of Color Television Test Signals"

USSR Author's Certificate No 263699, filed 5 Aug 68, published 15 Jun 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6G164 P)

Translation: This Author's Certificate introduces a device for measuring the parameters of color TV test signals. The device contains a control module, a subcarrier frequency reference signal oscillator, upper and lower frequency filters, and an analog-digital converter. For purposes of large-scale automation of measurements of the parameters of test signals coded in the SECAM, NTSC or PAL systems with simultaneous output of the results of measurements on different chromatic bands or in adjacent lines in digital form, the analog-digital converter is connected to the lower frequency filter through a module for analog processing of the brightness signal, and to the upper frequency filter through the module for analog processing of chrominance signal levels which is connected in parallel with a module for FM or PM conversion of the chrominance signal. The conversion module is controlled by a recognition circuit of the coding type.

1/1

. USSR   UDC: 621.397:535.67

KRIVOSHEYEV, M. I., DVORKOVICH, V. P., KRYLOV, L. N.

"A Device for Automatically Measuring Linear Distortions of the Character-
istics of Color Television Channels"

USSR Author's Certificate No 269225, filed 25 Jul 68, published 12 Aug 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6G126 P)

Translation: This Author's Certificate introduces a device for automati-
cally measuring linear distortions of the characteristics of color tele-
vision channels. The device contains an amplifier with automatic peak-to-
-peak gain control of the brightness signal. This amplifier is connected
through a low-frequency filter and delay line to one of the inputs of a
subtractor, and through a high-frequency filter and color signal envelope
detector to the second input of the subtractor. The device also contains
a digital registration device which consists of a digital display, a digi-
tal printout device, a sign indicator with peak detector, and an analog-
-digital converter. To improve accuracy of measurements of the difference
in gain and divergence in time of brightness and chrominance signals, a
second subtractor is connected to the output of the first subtractor through

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KRIVOSHEYEV, M. I. et al., USSR Author's Certificate No 269225

commutated peak detectors. The signal from this second subtractor is sent
to the above-mentioned sign indicator, and the outputs of the commutated
peak detectors are simultaneously connected to the input of an adder whose
output is connected through an arcsine amplifier to the input of the analog-
-digital converter of the digital registration device. As a distinguishing
feature of the patent, the total amplitudes of signals at the outputs of
the lower and upper frequency filters are balanced out by connecting an
amplifier with automatic gain control by the voltage from the output of
the second subtractor between the chrominance signal envelope detector and
the subtractor input. V. M.

2/2

USSR

BALOVNEV, V. I., CHIZHIK, Ye. I., DVORKOVOY, V. Ya., RASTEGAYEV, I. K.,
ZELENIN, A. N.

"Device for Studying the Effect of an Explosion in Excavation of Soils"

Otkrytiya Izobreteniya Promyshlennye Obraztsy Tovarnyye Znaki, No 5, 1972,
Patent No 355311.

Translation: 1. Device for studying the effect of an explosion in excava-
tion of soils by the working organs of earth moving and transportation
machines including a container, an explosive device and measuring instru-
ments, differing in that in order to assure the possibility of regulation of
the energy and direction of application of the explosion, a plate is hinged
in the container, with the explosive device rigidly connected to the plate,
made with a power cylinder with a back valve, with an elastic film mounted
on the side toward the soil, interacting with the filament installed in the
power cylinder.
     2. An installation according to Claim 1, differing in that the plate
is connected to the container by a screw mechanism, with a smaller plate
articulated to it, connected to the larger plate by an additional screw
mechanism.

1/2

USSR

BALOVNEV, V. I., CHIZHIK, Ye. I., ET. AL., Otkrytiya Izobreteniya Promyshlen-
nye Obraztsy Tovarnyye Znaki, No 5, 1972, Patent No 355311.

2/2
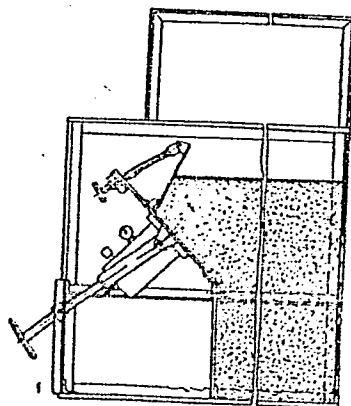
USSR   UDC 666.1101.621.378.324

SHATILOV, A. V., GUSEV, G. P., and DVORNIKOV, G. D.

"Self-Focusing Thresholds of Nanosecond-Long Radiation in Optical Glass"

Abstract: Experimental threshold self-focusing capacities are compared, for
19 kinds of Soviet-produced optical glass, to theoretical threshold values
computed on the basis of a model of striction self-focusing, for a radiation
duration of 10^{-7} — 10^{-8} seconds. In the measurement procedure, the relation-
ship of the self-focusing threshold to the size of the irradiated area is
taken into account. For highly homogeneous types of glass the experimental
results coincide with the values of the model, but cases are possible in
which account must be taken of absorption. The principles dealt with do not
extend to the case of durations of greater length. One table, 11 references.

1/1

DVORNIKOV, N P

Anti-flu vaccination

UDK 616.921.5-084

SO: Military Medical Journal

62

EFFECTIVENESS OF ANTI-FLU VACCINATION IN TIMES OF FLU EPIDEMIC

G. A. Chernyakov, Lieut.-Col., Med. Ser.
N. P. Dvornikov, Major, Med. Ser.

Immunology

USSR   UDC 616.921.5-084

CHERNYAKOV, G. A., Lt Col Med Serv, and DVORNIKOV, N. P., Maj Med Serv

"The Effectiveness of Influenza Vaccine During an Influenza Epidemic"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 11, 1970, pp 46-48

Abstract: Just before the 1969-1970 influenza epidemic peaked in December
and early January, a group of young soldiers was vaccinated intranasally
with A_2 vaccine while a similar group received anti-influenza serum. A
third group that received neither vaccine nor serum served as the control.
The vaccinations reduced the incidence of the disease by a factor of 4.6
while seroprophylaxis reduced it only 1.4 times. Whereas in the control
group cases were reported early in January, no cases were reported in the
other two groups until February and the distribution by days among the
vaccinated was more uniform than among the nonvaccinated. However, the
course of the disease caused by A_2 virus, was essentially the same in both
the vaccinated and nonvaccinated.

1/1

USSR   UDC 624.07:534.1

DVORNIKOV, V. A.

"Effect of Shifts and Rotational Inertia on the Frequency of Natural
Vibrations of Rods"

Translation: A solution of the system of differential equations for the
transverse vibrations of a rod considering shifts and rotational inertia
is sought in the form $y = rz(\psi) \sin p\tau$, $\theta = u(\psi) \sin p\tau$. r is the radius
of inertia of the cross section and the functions $z(\psi)$ and $u(\psi)$ are func-
tions of the coordinates only. Substitution in the equations of motion
and certain transformations make it possible to reduce the system to the
solution of one ordinary fourth-order differential equation, the solution
of which can be represented as the sum of trigonometric and hyperbolic func-
tions, such that the coefficients of the resulting series are determined from
the boundary conditions for the support of the rod. The resulting solution
is compared with a solution that does not take into account shifts and rota-
tional inertia. Yu. V. Suvorova.

1/1

USSR

UDC: 621.373.531.2

DVORNIKOV, V. D.

"A Semiconductor Short Pulse Shaper"

Tr. 7-y Konferentsii po yadern. elektron. T. 2, Ch. 2 (Works of the Seventh Conference on Nuclear Electronics. Vol 2, Part 2), Moscow, Atomizdat, 1970, pp 174-176 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7G289)

Translation: The author describes a shaper circuit made in the form of a blocking oscillator based on a transistor in the driven mode with stabilization of pulse duration by a negative feedback circuit, the output of the shaper being fed through a delay line and a second transistor to the base of the first transistor. The time required for a signal to pass through this circuit is less than the duration of the squegging process. Parameters are given for a shaper with a maximum output pulse duration of ~30 nsec. Bibliography of three titles. N. S.

1/1

USSR   UDC 621.384.633

DVORNIKOV, V. D., REZVOV, V. A., YUDIN, L. I.

"Current Micropulse Indications at Various Cyclotron Radii"

Abstract: A description is given of the principal system developed
by the authors for measuring the parameters of small bunchings of
particle currents at various radii of the cyclotron in the Moscow
Institute of Atomic Energy. The basic method of the system is the
stroboscopic principle, discussed in an earlier article published
in the journal noted above (I. D. Breslavtsev, et al, No 4, 1972,
p 26). A block diagram of the system is given. To increase its
sensitivity and to exclude the dependence of its input signal on
the shift of the beam, two sensors were put at each radius, placed
symmetrically with respect to the median density of the accelera-
tor; preamplifiers were also used to help raise the sensitivity
level. Basic schematic diagrams of the electronic equipment in the
stroboscopic converter and frequency converter are also given. Re-
sults of measurements made with the device are presented. The au-
thors thank N. I. Venikov and N. I. Chumakov for their support.
1/1

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USSR   UDC: 621.374.2

BRESLAVTSEV, I. D., VENIKOV, N. I., DVORNIKOV, V. D., KULESHOV,
I. L., LATUSHKIN, S. T., REZVOV, V. A., CHUMAKOV, N. I., and
YUDIN, L. I.

"Use of 'Deviation Grouping' to Obtain Intense Short Neutron
Pulses in the IAE Cyclotron"

Abstract: A system is described for the formation and diagnostics
of a beam of neutrons using the method of deviation grouping.
Similar to that of Karlsruhe, as described by S. Cierjacks et al
(Rev. Scient. Instrum., 39, 1968, p 1279), the system involves
a packet of ions cut by a pulsed voltage of an internal deflector
and accelerated to the proper energy level. The ions are deflec-
ted vertically to a target whose thickness is larger than the ion
path, and as a result of the impact of the particles on the tar-
get, short intense neutron pulses are obtained. A detector, re-
cording the neutrons' energy spectrum, is placed at a distance of
13.5 m from the target. Unlike the Karlsruhe cyclotron, however,
the IAE has two 180° duants, such that it is impossible to place
all elements of the system in the space outside them. The setup

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USSR

UDC: 621.374.2

BRESLAVTSEV, I. D., et al, Pribory i Tekhnika Eksperimenta, No 4,
July-August 1972, pp 26-31

involving the IAE cyclotron is described, together with the elec-
tronic equipment, and a sketch of the instrumentation is given in
block form. A neutron pulse frequency of as much as 110 kHz is
obtained. The authors are associated with the Institute of Atomic
Energy at Moscow.

2/2

USSR

GARKUSHA, N. G., DVORNIKOV, V. I., SHILINGOVSKIY, N. I.

"Dynamic Processes in the Brake Cables When a Lift Container is Stopped by Parachute in a Rigidly Reinforced Channel"

Stal'n. Kanaty., No 9 [Steel Cables, No 9 -- Collection of Works], Kiev, Tekhnika Press, 1972, pp 319-321, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V1162, by the author's).

Translation: The dynamic loads arising in brake cables and rigid reinforcing wires when a lift container is stopped by PKL parachute traps are studied. It is assumed that the brake cable is a viscoelastic rod with a rigidly attached upper end and free lower end, and that the parachute provides instantaneous "dead" capture with any finite velocity of the container.

1/1

USSR   UDC 621.382.3:546.289

DVORNIKOV, V.I., PAPUSH, V.G.

"Temperature Dependence Of The Noise Factor Of Germanium Transistor Of The Drift Type"

Elektron. tekhnika. Nauch.-tekhn.sb. Kriogen. elektronika (Electronics Technology. Scientific-Technical Collection. Cyrogenic Electronics), 1971, Issue 1(3), pp 16-22 (from RZh:Elektronika i yeye primeneniye, No 10, October 1972, Abstract No 1CB183)

Translation: The experimental characteristics are presented of the noise of germanium drift transistors at high frequency in the region of the white spectrum. The temperature dependence is studied of the noise factor of transistors during cooling of them in the temperature interval 78--293° K. The value of the noise factor in all the transistors tested decreases at first in proportion to the reduction of the temperature, reaches a ninimum value at some temperature, and subsequently again increases. The optimum temperature corresponding to the minimum value of the noise factor lies in the interval 120--200° K. 2 ill. 3 tab. 2 ref. N.K.

1/1

USSR   UDC 621.382.323-416

VASILENKO, L.S., DVORNIKOV, V.I.

"Experimental Study Of Silicon Of Metal-Insulator-Semiconductor Transistor With Induced p-Type Channel At T = 77° K"

Elektron.tekhnika. Nauch.-tekhn.sb.Kriogen.elektronika (Electronics Technology. Scientific-Technical Collection. Cyrogenic Electronics),1971, Issue 1(3),pp 35-45 (from RZh:Elektronika i yeye primeneniye, No 10, Oct 1972,Abstract No 10B191)

Translation: The paper describes a MIS transistor with an insulated gate which has a high input resistance (10^{12}--10^{14} ohm) in a wide temperature range independent of the magnitude and polarity of the voltage at the gate. An account is given of the basic physical principles and peculiarities of operation of a MIS transistor under conditions of deep freezing. The static volt-ampere characteristics and the amplifying and noise parameters of a transistor with a p-type channel during cooling to 77° K are analyzed. 7 ill. 11 ref. N.K.

1/1

UNCLASSIFIED   PROCESSING DATE--24JUL70

TITLE--THERMAL STABILITY OF CERIUM AND PRASEODYMIUM VALERATES --U--

AUTHOR--LAZAREVA, L.S., AMBROZHIY, M.N., DVORNIKOVA, L.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 354-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, CERIUM COMPOUND, PRASEODYMIUM COMPOUND,
    VALERIUM COMPOUND, THERMAL DECOMPOSITION, ACTIVATION ENERGY, ENDOTHERMIC
    EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/0966   STEP NO--UR/0078/70/015/002/0354/0357

CIRC ACCESSION NO--AP0053889
                    UNCLASSIFIED

117297e Thermal stability of cerium and praseodymium valerates. Lazareva, L. S.; Ambrozhii, M. N.; Dvornikova, L. M. (Saratov. Gos. Univ., Saratov, USSR). Zh. Neorg. Khim. 1970, 15(2), 354-7 (Russ). NH_4 valerate (NH_4L) was added slowly to 10% soln. of Ln (Ln = Ce or Pr) nitrate and the ppt. was washed and recrystd. to give $LnL_3.H_2O$. DTA indicated that the compds. lost H_2O at 80-120°. $CeL_3.H_2O$ decompd. >240°, giving CeO_2 at 420° as the final product. Thermal decompn. of $PrL_3.H_2O$ proceeded by formation of Pr_2OL_4, $2PrO_2.3Pr_2O_3.PrOL.5O_2$ and finally by the formation of Pr_6O_{11} at 580°. Thermal decompn. of $PrL_3.H_2O$ in N atm. has an endothermic effect at 420° which was not present in normal atm. Activation energies of decompn. of $LnL_3.H_2O$ and their decompn. products are tabulated.   HMJR

REEL/FRAME
19830966

TITLE--ENZYMATIC TRANSFORMATION OF TRYPTAMINE BY FUNGI -U-

AUTHOR-(03)-DVORNIKOVA, T.P., SKRYABIN, G.K., SUVOROV, N.N.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 42-46

DATE PUBLISHED------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FUNGUS, ENZYME ACTIVITY, INDOLE, ACETIC ACID, ASPERGILLUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1409   STEP NO--UR/0220/70/039/001/0042/0046

CIRC ACCESSION NO--AP0109471
UNCLASSIFIED

CIRC ACCESSION NO--AP0109471

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABILITY FOR TRYPTAMINE
   TRANSFORMATION WAS STUDIED AMONG FUNGI BELONGING TO VARIOUS TAXONOMIC
   GROUPS. MUCOR, MORTIERELLA AND SYNCEPHALASTRUM DID NOT PRODUCE INDOLE
   COMPOUNDS WHEN GROWING IN THE LIQUID MEDIUM CONTAINING TRYPTAMINE.
   RHIZOPUS, CUNNINGHAMELLA, ABSIDIA AND SOME SPECIES OF PENICILLIUM AND
   ASPERGILLUS OXIDIZED TRYPTAMINE PRODUCING TRYPTOPHOL AND
   INDOLYL-3-ACETIC ACID. THE CULTURAL BROTH OF ASPERGILLUS NIGER AND
   ASPERGILLUS AWAMORI CONTAINED ALSO 5-HYDROXYINDOLYL-3-ACETIC ACID AND
   ONE UNIDENTIFIED INDOLE COMPOUND.

UNCLASSIFIED

USSR UDC:621.785

DVORINA, L. A., YUKHIMENKO, Ye. V., VDOVENKO, S. A., Institute of Problems of
·Material Science, Academy of Sciences UKrSSR

"Interaction of Titanium Diboride with Titanium Disilicide and Silicon at
High Temperatures"

Abstract: This work presents a study of the high-temperature interaction
of titanium diboride and disilicide, as well as titanium diboride with silicon
in a vacuum in the 900-1800°C temperature interval. The initial materials
used were titanium diboride and disilicide powders; the experiments were per-
formed in a vacuum resistance furnace with a graphite heating element.
Analysis of the data produced showed that at high temperatures, titanium
disilicide and diboride interact without forming other phases. However,
above 1100°C a clear tendency toward decreasing silicon content is observed,
apparently resulting from its evaporation upon dissociation of the titanium
disilicide. Analysis of data on the high temperature interaction of titanium
diboride with silicon showed slight solubility of silicon in titanium diboride.
The high chemical stability of titanium diboride against silicon and titanium
disilicide apparently results from the high bond strength of the Me-B and
B-B bonds.

DVOROV, I. M.

WATER RESOURCES

USES OF GEOTHERMAL WATER DISCUSSED

[Article by I. Dvorov, scientific secretary of the USSR Academy of Sciences, Scientific Council on Geothermal Investigations, Candidate in Geographical Sciences: "The Hot Waters of the Earth"; Moscow, Sovetskaya Zhizn', Russian 6 October 1973, p 2]

During the snowy, cold days of winter the inhabitants of Petropavlovsk-Kamchatskiy are happy, for they can see the green onions and radishes in the stores and cucumbers and tomatoes in the kindergartens, nurseries, and hospitals. The workers of Kamchatka and the surrounding areas will soon be receiving sufficient quantities of fresh vegetables all year round.

It is known that the procurement of fresh vegetables in winter and spring is a complex problem that is still for from resolved. In spite of the fact that the number of hothouses in our nation is increasing each year, the demand for vegetables is still not being met, particularly during winter and spring.

In order to secure even a minimal quantity of fresh vegetables for a city of 100,000 people it is necessary to have 10 hectares of hothouse area, that is, one-quarter square meter per person. The production cost of hothouse vegetables is still high — more than 60 rubles per hundredweight. Of this, 60-65 percent goes to heat the structures. A hothouse combine with an area of 10 hectares in the central plain areas requires as much heat to function as a modern city of 60,000-70,000 people needs for its public and domestic facilities. Thus, two problems exist simultaneously: the procurement of all-season vegetables for the nation and a decrease in the costs of hothouse products.

In this respect the search for additional and cheaper heat sources is particularly important. And we are performing such a search. The first of these is the earth's subterranean heat — hot springs.

Our nation possesses vast resources of hot springs and steam-water mixtures. Many such sites are known in the USSR's European part, Western and Eastern Siberia, the Far East, Central Asia, and Kazakhstan.

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Source: 60446
2 Nov '73

DVORSHAK, A., VROBEL', L. V.

"The Problem of Determining the Internal Stress of Nickel Coatings"

Translation: A device (briefly described) allowing measurement of the internal stresses (IS) in extension and compression of a strip or wire cathode is used to study the IS in shiny Ni precipitates from a Watts bath with added saccharin and butinediol. These reductions of 0.0045 mol/l saccharin fully compensates for the tensile IS developing in the presence of 0.02 mol/l butinediol. The tensile IS are replaced by compressive IS as the temperatures increase from 20 to 40°. A decrease in tensile IS is observed right up to the appearance of compressive IS as D_c is increased from 1 to 10 a/dm^2 (temperature 60°), and an increase in tensile stress is observed as the Ph is increased to over 5.0.

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AA0047078_ Dvortsin, V.I.   UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

241757 HEAT FLUXES METER contains vacuum tube (1)
     with window (2) transparent to heat waves
within given range of vibration frequency, and
ferroelectric transducer (3) with electrical
terminal (4) (to which load resistance is connected),
collector (5) of secondary electrons with terminal
(6) and electron gun (7) with terminal of modulator
(8). When ferroelectric is heated by heat flux,
and electron gun is activated by suitable potential
impulse connected to modulator, then in the circuit
of load resistance appears a pulse of current
proportional to the charge created on the ferro-
electric transducer by heat waves.
1.11.67 as 1194201/18-10.V.I.DVORTSIN & T.M.TSYKUNOVA.
UKR.CYBERNETICS INST. (9.9.69) Bul 14/18.4.69.Class
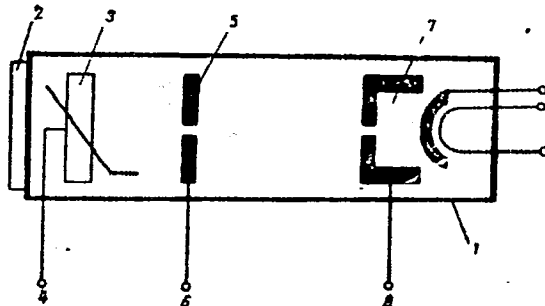42i. Int.Cl.G 01 k.

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19790548

AA0047078

AUTHORS: Dvortsin, V. I.; Tsykunova, T. M.

Institut Kibernetiki AN Ukrainskoy SSR

19790549

006   UNCLASSIFIED   PROCESSING DATE--27NOV70

TITLE--ALKYLATION OF PHENOL BY ISOBUTYL ALCOHOL ON THE MACROPOROUS CATION
   EXCHANGER KU,2-12P -U-

AUTHOR-(05)-ISAGULYANTS, V.I., MELIKYAN, V.R., GUZIK, V.S., DVORTSOVA,
   V.M., SUKHANOVA, N.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 389

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALKYLATION, PHENOL, BUTANOL, CATION EXCHANGE RESIN/(U)KU2 12P
   ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0883   STEP NO--UR/0064/70/046/005/0389/0389

CIRC ACCESSION NO--AP0137911
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0137911
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ALKYLATION OF PHOH BY
  ISO,BUOH, THE CATALYTIC ACTIVITY OF THE MACROPOROUS CATION EXCHANGER
  KU,2-12P (STATIC EXCHANGE CAPACITY 4.85 MG EQUIV.-G, SP. SURFACE 30-40 M
  PRIME2-G, AND PARTICLE SIZE 0.355-2.0 MM) WAS CLOSE TO THAT OF THE
  UNMODIFIED RESIN KU,2-8 FROM WHICH IT WAS DERIVED. AT 150DEGREES WITH
  30PERCENT KU,2-12P AND A PHOH ALC. RATIO OF 1:0.8, THE PRODUCT MIXT.
  CONTAINED 32PERCENT PHOH, 3PERCENT O AND 65PERCENT P,TERT,BUC SUB6 H
  SUB4 OH.

UNCLASSIFIED

USSR

UDC 615.47:62(47):65.012.2

DVORYAKOVSKIY, V. A., Deputy Minister of the Medical Industry USSR

"The Medical Equipment Industry in the New Five-Year Plan"

Moscow, Meditsinskaya Tekhnika, No 4, 1971, pp 4-6

Abstract: The new five-year plan for the medical industry requires radical changes in the methods used to design and put into production new instruments, apparatus, articles, etc. based on scientific and engineering advances of recent years, e.g., ultrasonic devices, gas analyzers, lasers, equipment compatible with control devices and computers. Efforts will be intensified to find and use new metals, alloys, and polymers. Cooperation with scientists and engineers in the socialist countries and more contacts with foreign companies in the West will be encouraged. The goals of the 9th Five-Year Plan will not be achieved, however, unless some of the major shortcomings of the medical industry are corrected. These include insufficient mechanization and automation of production, use of obsolete machines, inadequate specialization, existence of too many small and inefficient factories, and lack of coordination and planning to prevent unnecessary duplication and repetition.

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USSR   UDC: 621.317.73(088.8)

TERESHCHENKO, V. P., LEVINSON, B. A., KISELEV, I. B., SHELKOVNIKOV,
A. A., and DVORYANINOV, I. A.

"Automatic Device for Measuring the Input Resistance of a Long
Line"

/N.-i. in-t teploenerg. priborostr./ Avt. sv. USSR (Scientific Re-
search Institute of Thermal Energy and Instrument Manufacture,
Author's Certificate USSR) Class 21a⁴, 74, (G01 r 27/04),
No. 270842, Application 21.05.68, Publication 20.05.70 (from
Izh-Radiotekhnika. No. 3, March 71, Abstract No. 3A3012)

Translation: An automatic device is proposed for measuring the in-
put resistance of a long line, containing a UHF oscillator, a
modulator, a detector, an amplifier, a phase-sensitive rectifier,
and a compensating parametric controlling element. The proposed
measuring device is distinguished in that, with the purpose of
improving the accuracy of measurement, a parametric controlling
element is connected in series with the measured section of the
line.   A. A.

1/1

TITLE--EFFECT OF OXYGEN BLOWING OF AN OPEN HEARTH BATH ON THE QUALITY OF
LOW ALLOY STEEL -U-
AUTHOR--LASHCHEV, B.YA., DVORYANINOV, V.A., MEDZHIBOZHSKIY, M.YA.,
KURAPIN, B.S., KOVALENKO, V.S.
COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(1), 20-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--OPEN HEARTH FURNACE, OXYGEN, LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0160   STEP NO--UR/0133/70/030/001/0020/0025

CIRC ACCESSION NO--AP0103839
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0103839   UNCLASSIFIED   PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARISON HEATS WERE MADE IN A
300 TON GAS FIRED OPEN HEARTH FURNACE BY BLOWING THE BATH WITH O, OR BY
ADDING THE LATTER TO THE FLAME, BY VARYING BLOWING RATE AND THE TIME
BETWEEN THE END OF BLOWING AND DEOXIDN. INCREASING BLOWING RATE.
6.7-11.7 M PRIME3-TON-HR AND SHORTENING TIME BEFORE DEOXIDN. FROM 55 TO
7-15 MIN LOWERED H CONTENT, AND THAT OF N FROM 0.0043 TO 0.0038, PURITY
OF O HAVING NO EFFECT ON THIS REDN. EXCESS O IN THE METAL OVER THE
EQUIL. IS NOT AFFECTED BY THE MANNER OF O INTRODUCTION WHEN ITS C IS
GREATER THAN 0.4PERCENT, BUT IT INCREASES PROPORTIONALLY TO THE BLOWING
RATE WHEN C DROPS TO 0.15-0.20PERCENT. NONMETALLIC CONTENT AND MECH.
PROPERTIES ARE UNAFFECTED BY THE WAY IN WHICH O IS INTRODUCED IN THE
METAL.

UNCLASSIFIED

USSR

KOLESNIKOV, A. G., DVORYANINOV, G. S.

"Development of a Stationary Bottom Boundary Layer Resulting from Reynolds Wave Stresses"

Translation: The nonlinear problem of movement in a boundary layer under the influence of periodic perturbations of the free flow is studied. The field of velocities is represented as the sum of the stable and periodic components; individual differential equations are concluded for each component. Expansion into series with respect to the inverse value of the Strukhal number allows these equations to be solved in sequence. The Reynolds wave stresses and induced or stable solution are calculated (in the first approximation). The authors believed that the pecularities of bottom and sludge currents in the ocean can be explained in this manner.

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DVORYANKIN V.F.

VI1-7a. GROWTH KINETICS OF EPITAXIAL LAYERS OF GaAs IN THE $AsCl_3$ + H_2 + Ga SYSTEM

[Article by V. F. Dvoryankin, A. A. Telegin, Institute of Radio Engineering and Electronics of the USSR Academy of Sciences, Moscow; Novosibirsk, III Sizpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 94]

A brief survey of papers on the growth kinetics of epitaxial layers of GaAs in the $AsCl_3$ + H_2 + Ga system is presented.

The formula was found for calculation of the growth rate of epitaxial layers of GaAs in the $AsCl_3$ + H_2 + Ga system using the solution of the continuity equation considering diffusion of the gas components through the boundary layer.

Agreement is observed between the experimental growth rates of the epitaxial layers of GaAs and those calculated by the proposed formula.

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DVORYANKIN, V. F., YEMEL'YANENKO, O. V., NASLEDOV, D. N., NEDEOGLO, D. D.,
TELEGIN, A. A.

"Electric Properties of n-GaAs Epitaxial Layers"

Abstract: A study was made of the Hall effect, electrical conductivity and
mobility in n-GaAs epitaxial layers in the temperature range of 2.5-295° K.
The layers were obtained by the method of gas epitaxy on a semiinsulating sub-
strate made of gallium arsenide alloyed with chromium, and they had an elec-
tron concentration of $5.7 \cdot 10^{14}$-$4.9 \cdot 10^{15}$ cm^{-3} and a current carrier mobility
of 7,500-8,000 cm^2/volt-sec at T=295° K. The maximum mobility in the investi-
gated layers was 104,000 cm^2/volt-sec. In the n-GaAs epitaxial layers with
$n > 10^{15}$ cm^{-3} at low temperatures, scattering of the neutral atoms of the ad-
mixture becomes significant. From analysis of the temperature dependence of
the Hall factor, the donor concentration N_d, the acceptor concentration N_a,
and the ionization energy of the small donor admixture E_d were determined. In
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USSR

layers with a concentration of $n \sim 10^{15}$ cm^{-3}, a deep admixture level was detected with $E_{deep} \simeq 0.1$ electron volts. The concentration of the admixtures giving a deep admixture level decreases with an increase in the purity of the layers. In the purest test piece ($n = 5.7 \cdot 10^{14}$ cm^{-3}) no deep level was detected. The ionization energy of small donor admixtures decreases with an increase in their concentration as $N_d^{1/3}$.

In order to perform a more detailed analysis, measurements of E_d in crystals with a different degree of admixture compensation are necessary. In addition, the possible dependence of E_d on temperature must be considered and studied to which variations in the number of admixture ions in the crystal and variation of the screening effect of the current carriers can lead.

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USSR

DVORYANKIN, V.V.

"Small Oscillations In A Cylindrical Magnetron With An Inclination Of The Magnetic Field"

Translation: A cylindrical single-anode magnetron is considered with a total space charge and an inclination of the magnetic field, in a regime of small steady-state radial oscillations (transit). With this it is assumed that the spacing between the electrodes is small in comparison with their radii. It is shown that as in the case of crossed fields, with the inclination of the magnetic field there are a number of comparatively narrow frequency bands in which the resistance of the magnetron may be negative. Problems are considered connected with the dielectric constant of the cloud of a magnetron with crossed fields, and also the behavior of the power being generated as a function of the angle of inclination. In accordance with the experiment, it is shown that as a function of the frequency ξ it is possible that positive become negative and in the region of resonance frequency is reduced to zero, and the power being generated at specific frequencies in regions of small angles of inclination goes through a maximum. 7 ref. Summary.

1/1

DVORYANTSEV, N.V.

AAC047096

244504 AUTOMATIC INDUCTANCE METER FOR TESTING PIEZO-
ELECTRIC RESONATORS contains master harmonic
generator (1), wide band amplifier (2) whose amplif-
ication factor is automatically changed by regulator
(3), four-terminal resistance network (4) to which
is connected piezoelectric resonator to be tested
(not shown), automatic frequency trim circuit con-
sisting of wide band amplifiers (5) and (6), sampling
phase inverter (7) and phase detector (8). Pulse
oscillator (9) changes the phase of sampling phase
inverter (7). One input of ratiometer (10) is
connected to input of resistance network (4) through
amplitude detector (11) and amplifier of harmonic
signal (12). The second input of ratiometer (10)
is connected to input of amplifier (12) through
converter circuit of connected in series peak
detector (13), impulse amplifier (14) and frequency
detector (15). The scale of ratiometer (10) is
suitably graduated for direct reading the dynamic
inductance of piezoelectric resonator.
12.6.68 as 1246963/26-9.V.F.IVANCHIN.et al(7.10.69)
Bul 18/28.5.69. Class 21e. Int.Cl.G 01r.

19730583

AA0047096

AUTHORS: Ivanchin, V. F.; Shkinderov, Ye. G.; Leytush, M. L.; Shemarina, L. I.;
Dvoryantsev, N. V.

19790584

USSR

UDC 547.759.3:543.422.25

DVORYANTSEVA, G. G., UL'YANOVA, T. N., SHEYNKER, Yu. N., and YAKHONTOV,
L. N., All-Union Scientific Research Chemico-Pharmaceutical Institute
imeni S. Ordzhonikidze, Moscow

"Study by the PMR Method of the Protonation of Derivatives of 5-Azaindole"

Abstract: The protonation of 5-azaindole (I), 5-azaindoline (II),
1-phenyl-5-azaindole (III), 1-phenyl-5-azaindoline (IV), 1-acetyl-5-aza-
indoline (V), and 4-aminopyridine (VI) by trifluoroacetic acid in solutions
with various dielectric constants was studied by the PMR method. Protona-
tion took place at 5-N in the pyridine ring. Spin-spin interaction with
1-N – H was indicated by the PMR spectrum of the monocation of VI. In the
monocations of I, II, III, and IV there was a considerable contribution of
a quinoid structure with a transfer of the positive charge to N of the
pyrrole ring. On the basis of the relations between the chemical shifts
of protons of III and IV and the concentration of trifluoroacetic acid in
methylene chloride, acetonitrile, and deuteracetone, a mechanism of proto-
nation is proposed according to which the transfer of a proton from the
donor to the acceptor in solvents with a low polarity takes place over an
initially formed base-acid complex to which hydrogen is bound.
1/1

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UDC $543.422.25;546.740'785.5$

ALEKSEYEVA, L. M., DVORYANTSEVA, G. G., PERSIANOVA, I. V., SHEYNKER, YU. N., PALEY, R. M., and KOCHERGIN, P. M., All Union Scientific Chemical-Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Protonization of the Derivatives of Pyrrolo[1,2-a]benzimidazole"

Abstract: Protonization of a series of pyrrolo[1,2-a]benzimidazole derivatives in trifluoroacetic acid has been studied by PMR method. The 1,3-unsubstituted compounds protonize exclusively on the C_1 atom. Pyrrolobenzimidazoles with a methyl substituent on position 1 form a mixture of two protonized forms under identical conditions, corresponding to the addition of a proton to C_1 and C_3 respectively. Relative content of the C_3 protonized form decreases gradually from 81% to 18% going from a compound unsubstituted in position 3 to the respective 3-phenyl- and 3-methyl derivatives. Basicity constants of pyrrolobenzimidazoles decrease symbatically with the increase of the relative content of this form. Relative proton acceptor capability of indolinine, pyrrolo[1,2-a]imidazole and pyrrolo[1,2-a]benzimidazole has been calculated from the protonization data and from indexes of reactivity.

1/1

UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--ALLO AND ISOALLOXAZINES. XXIV. SYNTHESIS OF 6,7,DIAMINOALLOXAZINE
AND NEW TETRACYCLIC SYSTEMS -U-
AUTHOR-(05)-TULCHINSKAYA, L.S., KLEBANOVA, V.D., POLYAKOVA, N.A.,
DVORYANTSEVA, G.G., BEREZOVSKIY, V.M.
CCUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 868-73

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, POLYNUCLEAR HYDROCARBON,
AMINE, FLUORESCENCE, UV LIGHT, IMIDAZOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1183
STEP NO--UR/0079/70/040/004/0868/0873
CIRC ACCESSION NO--AP0128603
UNCLASSIFIED

CIRC ACCESSICN NO--AP0128603   UNCLASSIFIED   PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 1 G ALLOXAN IN 2N HCL WAS SLOWLY ADDED 3.5 G 1,2,4,5,C SUB6 H SUB2 (NH SUB2) SUB4 SULFATE IN 2N HCL AND THE MIXT. HEATED 0.5 HR TO GIVE 79.5PERCENT 7,8,DIAMINOALLOXAZINE (I), M. LARGER THAN 300DEGREES. THIS (0.1 G) AND 0.6 ML HCO SUB2 H IN 1.5 ML CONCD. HCL AND 3.5 ML H SUB2 O REFLUXED 2 HR AND ADJUSTED WITH NH SUB4 CH TO PH 6-7 GAVE 74PERCENT IMIDAZO(4,5,1)ALLOXAZINE, ISOLATED AS YELLOW HCL SALT, M. LARGER THAN 300DEGREES. I HEATED 6 HR WITH ACCL,ACOH OR AC SUB2 O,ACOH GAVE 68PERCENT 2,METHYLIMIDAZO(4,5,1)ALLOXAZINE (II), ISOLATED AS PERCHLORATE, M. LARGER THAN 300DEGREES, AS RED CRYSTALS; HCL SALT, AMORPHOUS BROWN SOLID. I AND NANO SUB2 IN AQ. HCL GAVE IN 24 HR 82.7PERCENT TRIAZOLE(4,5,1),ALLOXAZINE, M. LARGER THAN 300DEGREES. I IN ME SUB2 SO KEPT 3 HR WITH AC SUB2 O GAVE RED ORANGE 6,ACETAMIDO,7,AMINOALLOXAZINE. THE IMIDAZOALLOXAZINES GAVE YELLOW GREEN FLUORESCENCE IN UV LIGHT. HEUCKEL ANAL. OF ELECTRONIC DISTRIBUTION IN THESE COMPDS. WAS MADE AND PLOTS OF ELECTRON D. WERE SHOWN. THE RESULTS INDICATED THAT THE AMINO GROUP IN THE 7 POSITION IS MUST LIKELY TO BE ACYLATED FIRST IN I; THIS WAS CONFIRMED AS SHOWN ABOVE. FACILITY: VSES. NAUCH. ISSLED. VITAMIN. INST., MOSCOW, USSR.

1/2   021
TITLE--DETERMINATION OF THE STERIC ORIENTATION OF THE HYDROXYL GROUPS OF
  STEREOISOMERIC 4,ETHYNYL,4,PIPERIDINOLS AND THEIR ANALOGS ACCORDING TO

UNCLASSIFIED   PROCESSING DATE--27NOV70

AUTHOR-(05)-MAMONOV, V.I., DVORYANTSEVA, G.G., SOKOLOVA, T.D., SYSOYEVA,
  E.B., UNKOVSKIY, B.V.

COUNTRY OF INFO--USSR

SOURCE--ZZH. ORG. KHIM. 1970, 6(5), 1087-91

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--STEREOCHEMISTRY, IR SPECTRUM, PIPERDINE, HYDROXYL RADICAL,
  QUINOLINE, ALKYNE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1266

STEP NO--UR/0366/70/006/005/1087/1091

CIRC ACCESSION NO--AP0134940

UNCLASSIFIED

CIRC ACCESSION NO--AP0134940   UNCLASSIFIED   PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WAVE NO., THE INTENSITY, AND THE WIDTH AT MID POINT OF IR BANDS ASSIGNED TO AXIAL (ALPHA) OH GROUPS OF 2R,4R PRIME1, DISUBSTITUTED,4,HYDROXY,1,5,DIMETHYLPIPERIDINES (I) WERE ALL HIGHER THAN THOSE ASSIGNED TO THE EQUATORIAL (EPSILON) OH GROUPS. E.G. I (R EQUALS H, R PRIME1 EQUALS C TRIPLE BOND CH) HAD AN ALPHA OH BAND AT 3619 CM PRIME NEGATIVE1 AND AN EPSILON OH BAND AT 3611 CM PRIME NEGATIVE1. SIMILAR DIFFERENCES WERE FOUND WITH OTHER I (R AND R PRIME1 GIVEN): ME, C TRIPLE BOND CH; H, ET; AND ME, ET. ANALOGOUS ALPHA EPSILON OH BAND DIFFERENCES EXIST IN 4,(R,SUBSTITUTED), 4,HYDROXY,2,METHYLDECAHYDROQUINOLINES (R IS ET OR C TRIPLE BOND CH).
     FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2   022   UNCLASSIFIED   PROCESSING DATE--02OCT70
TITLE--IR ABSORPTION SPECTRA AND SPATIAL STRUCTURE OF STERO ISOMERIC
   1,2,5,TRIMETHYL,4,HYDROXY,4,PEPERIDYLCARBINOLS -U-
AUTHOR-(05)-MAMONOV, V.I., DVORYANTSEVA, G.G., SHULAYEV, N.P., SYOYEVA,
   E.G., UNKOVSKIY, B.V.
COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970 (2) 173-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, MOLECULAR STRUCTURE, HYDROXYL RADICAL,
   HETEROCYCLIC NITROGEN COMPOUND, HYDROGEN BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1503   STEP NO--UR/0409/70/000/002/0173/0179

CIRC ACCESSION NO--AP0112407
                         UNCLASSIFIED

2/2   022
CIRC ACCESSION NO--AP0112497   UNCLASSIFIED   PROCESSING DATE--02OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONFIGURATION AND CONFORMATION OF
I (R PRIME1 AND R PRIME2 EQUALS H, ME, ET, AND PH) WERE ESTD. ON THE
BASIS OF IR SPECTROSCOPIC STUDY OF I INTRAMOL. H BONDS.

UNCLASSIFIED   89

USSR   UDC   612.822.3

AGADZHANYAN, N. A., DVORZHAK, I., KALYUZHNYY, L. V., and
MORAVEK, M., Moscow

Abstract: Experiments with animals (rabbits) and human beings
revealed a correlation between EEG shifts and behavioral disturb-
ances, including impairment of conditioned reflexes, brought
about by increasing hypoxia. Elevation of the animals to stead-
ily higher simulated altitudes in a pressure chamber resulted
in the gradual dominance of slow high-amplitude waves on the
EEG, the disappearance of conditioned reflexes, adynamia, and
unconsciousness. In the early stage of the experiment with the
human subjects, the alpha oscillations were dominant, the beta
and theta oscillations insignificant, and the delta rhythms
entirely absent. With increasing hypoxia, the alpha oscillations
1/2

USSR

AGADZHANYAN, N. A., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti,
No 1, 1971, pp 176-183

gradually decreased, the beta oscillations disappeared, and
the delta rhythms became dominant. Mental performance (in
arithmetic problems) deteriorated, memory declined, and when
oxygen saturation of the blood was 65% or less unconsciousness
ensued, although several vital systems (respiratory, cardiac)
continued to function. The results of the experiments suggest
that EEG shifts can serve as an indicator of mental impairment
under conditions of increasing oxygen insufficiency.

2/2

USSR

UDC 632.95

VOLODKOVICH, S. D., ANDREYEVA, YE. I., GOLYSHIN, N. N., PONOVA, V. I., KAPLAN, G. I., PRONCHENKO, T. S., USMANOV, M. G., ABELENTSEV, V. I., DVOYCHENKOVA, E. A., and SKAZKINA, T. P.

"Bromtan"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 116-129 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13M501 by T. A. Belyayeva)

Translation: The preparation bromtan ($BrCCl_2CHBrCH_2CH_2CH_2Cl$) (I) is being tested as a soil fungicide and antiseptic for nonmetallic materials. I is as effective as carbathion in the control of melon fusarial wilt. I in a concentration of 0.8 percent is equivalent to DNOC in an 0.6 percent concentration with respect to hibernating forms of the causative agent of apple scab and brown spot. I is active in the control of cotton root rot and wilt at a consumption rate of 100-100 kg/ha.

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